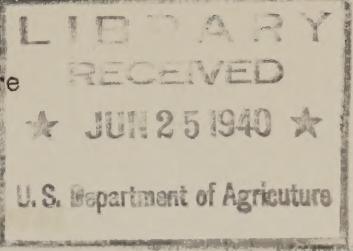


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ENGINEERING THE FARM ENTERPRISES*

Prepared by H. W. Riley from ideas by B. A. Jennings
Department of Agricultural Engineering
New York State College of Agriculture
Cornell University, Ithaca, N. Y.

This title is here taken to cover the process of coordinating the agronomic, engineering, and commercial aspects of the farm enterprise in the effort to attain a plan of management that will result in maximum efficiency in the use of labor and machinery and in the processes of marketing.

Extension technique for meetings requires on the part of the leader a fund of well-prepared specific information as to the selection, production, use, and marketing of crops and also an even more complete equipment of instantly available information as to the first cost, performance capacity, effectiveness, simplicity or complexity of operation, durability and probable life of the usual equipment for the district where the meeting is held, and also for better equipment that is in use in other districts or which is in process of development in the industry or at colleges.

Extension procedure best involves the study at a meeting of some specific farm enterprise, preferably a local one that is well known to be successful but which the owner is seeking to improve. This study must be graphically set forth before the audience, as pertinent facts are brought out, in order that the relative importance of the various factors may be fully and easily visualized so as not to impede the constructive thinking that is demanded as the meeting progresses. Such graphical portrayal is especially necessary for the jobs and hours of operation of man, horse, tractor, and machinery in order that the time, magnitude, and cause of peaks of demand may be evident.

Specific objectives sought after are:

- A. To level peaks of demand on labor and equipment.
- B. To lower equipment costs per dollar of net return.

Steps toward attaining objectives are:

- A. To level peaks of demand on labor and equipment:
 - 1. Diversify crops as far as profitable.

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Little diversification will probably -

- a. Permit the purchase of superior equipment.
- b. Make possible the employment of the best procedures.
- c. Result in a better quality of crop.
- d. Make marketing easier and more efficient.
- e. Lower equipment costs per dollar of net return.
- f. Make it easier for operator to keep himself technically informed.
- g. Increase peak demands.
- h. Involve greater risks from extremes of weather or of market conditions.

Great diversification will probably reverse many or all of the above effects.

2. Change crops to avoid intense demands.

For example:

Substitute grass silage for part of corn silage or hay.

3. Select varieties and plant to prevent peaks.

Select early and late varieties.

Plant at different times.

4. Change methods of handling crops.

For example:

Use rotary hoe or weeder to reduce total amount and distribution of labor for weed control.

Use combine in place of binder and thresher.

5. In general, select machine equipment that will do the most toward saving the labor that contributes most toward the creation of a peak demand.

B. To lower equipment costs per dollar of net return:

1. Increase acreage of use, as farm machinery tends to age out rather than to wear out in legitimate use.
(Tractor equivalent to 40 years of farm use.)
(Combine equivalent to 100 years of farm use.)
2. Select crops using the same equipment.
3. Increase efficiency by -
 - a. Keeping in correct adjustment.
 - b. Keeping in good repair.
 - c. Using a size suitable to the enterprise.
4. Keep first cost down by buying used equipment and repairing it.

The pedagogical objective to be sought after is an animated, good natured, and constructive series of reactions from the audience to induce mental activity and also to inspire confidence in the general conclusions arrived at.

